

## United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER OF PATENTS AND TRADEMARKS Washington, D.C. 20231 www.uspto.gov

			FIPST NAMED DRIFTS OF		
APPLICATION NO.	FILING DATE	FIRST MAMED BUILDING			
09/960,659	00/21/2001	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
	09/21/2001	Pradeep K. Agarwal	W002.PAT-12	5569	
75 EMERY L. TI	90 03/28/2003 RACY			3309	
P.O. Box 1518			EXAMINER		
Boulder, CO 80306			MAYEKAR, KISHOR		
			ART UNIT	PAPER NUMBER	
			1753	6	
			DATE MAILED: 03/28/2003	-	

Please find below and/or attached an Office communication concerning this application or proceeding.

### Office Action Summary

Application No.

Applicant(s)

09/960,659

P. AGARWAL et al.

Examiner

Kishor Mayekar

Art Unit 1753

The MAILING DATE of this communication and	
	pears on the cover sheet with the correspondence address
A SHORTENED STATUTORY PERIOD FOR REPLY IS THE MAILING DATE OF THIS COMMUNICATION.	
mailing date of this communication.	a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the
" THE POSTOU FOR ISBNY SPACIFIED SHOWS IN SOCIAL 41 41 45	ithin the statutory minimum of thirty (30) days will be considered timely.  apply and will expire SIX (6) MONTHS from the mailing date of this control is a second of the control of the c
Status	
1) Responsive to communication(s) filed on	
2b) X This	action is non-final.
Since this application is in condition for allowan closed in accordance with the practice under Ex Disposition of Claims	ce except for formal matters, prosecution as to the merits is parte Quayle, 1935 C.D. 11; 453 O.G. 213.
4) X Claim(s) 24 21	•
	is/are pending in the application.
5) Claim(s)	is/are withdrawn from consideration.
	is/are allowed
7) Claim(s)	is/are rejected.
8) Claims	is/are objected to.
Application Papers	are subject to restriction and/or election requirement.
9) The specification is objected to by the Examiner.	
10) The drawing(s) filed on Sep 21, 2001	2 P. C.
Applicant may not request that any chication 4.44	are a) 💢 accepted or b) 🗆 objected to by the Examiner.
11) The proposed drawing correction filed on	e drawing(s) be held in abeyance. See 37 CFR 1.85(a).
	is: a) approved b) disapproved by the Examiner.
12) The oath or declaration is objected to by the Exal	miner
Priority under 35 U.S.C. §§ 119 and 120	
13) Acknowledgement is made of a claim for foreign	Driority under 25 LLC C. S. 440
oome c/A None of:	
1. Certified copies of the priority documents ha	ave been received.
2. U Certified copies of the priority documents ha	ive heen received in Analisadia At
application from the International Bus	documents have been received in this National Stage
See the attached detailed Office action for a list of the	he certified conies not received
Acknowledgement is made of a claim for domestic	C Driority under 35 U.S.C. \$ 4400.
The translation of the foreign language provision	al application has been as a second
the desired is made of a claim for domestic	priority under 35 U.S.C. §§ 120 and/or 121
• •	
1) Notice of References Cited (PTO-892)	4) Interview Summary (PTO-413) Paper No(s).
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) V Information Disclarus Co.	5) Notice of Informal Patent Application (PTO-152)
3) X Information Disclosure Statement(s) (PTO-1449) Paper No(s)5	6) Other:

### DETAILED ACTION

#### Claim Rejections - 35 USC \$ 112

- 1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
  - The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
- 2. Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 26, the dependency is incorrect for being dependent on canceled claim.

# Claim Rejections - 35 USC \$ 102 and \$ 103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 5. Claim 30 is rejected under 35 U.S.C. 102(b) as being anticipated by HAAS et al. (3,933,608) in light of OLSEN (5,258,165). HAAS' invention is directed to a method for the decomposition of hydrogen sulfide to elemental sulfur and hydrogen at a low temperature by exposing a gas containing the hydrogen sulfide to a silent electrical discharge. However, HAAS does not disclose that the use of corona discharge for the decomposition. CONRAD discloses in col. 1, lines 13-34 that the silent discharge is also known as corona discharge.

- 6. Claims 24, 25 and 31 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over HAAS '608 in light of CONRAD '003. HAAS further discloses in paragraph crossing cols. 2 and 3 that the exposure of the hydrogen sulfide-containing gas is effected at -40°C up to 61°C or more. Because the prior art discloses a value within the claimed range, the claims are anticipated. As to the overlapping of the claimed range, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the reference's teachings because it has been held that a prima case of obviousness exists where claimed ranges overlap or lie inside ranges disclosed by the prior art, In re Wertheim 191 USPQ 90; In re Woodruff 16 USPQ 1934.
- 7. Claims 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over HAAS '608 in light of CONRAD '003 as applied to claims 24 and 25 above, and further in view of CA 675292 A and Applicant's admission. HAAS further discloses in col. 2, lines 58-66 that the hydrogen sulfide-containing gas is gas resulted from an

industrial process either as the principal  $H_2\mathcal{S}$  abating operation or as a secondary removal operation. CA '292, a reference cited by Applicant, shows in a method of separating moisture and hydrogen sulfide from natural gas streams the provision of adsorbent means comprising a first adsorbent having a first predetermined temperature and a second adsorbent having a second temperature greater than the first predetermined temperature (paragraph crossing pages 11 and 12). Applicant admits in the last paragraph of page 2 of the specification it is known that the fluidized bed adsorption process is better than the fixed bed adsorption in the removal of H2S. The subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the reference's teachings as suggested by CA '292 and Applicant's admission because the selection of any of known adsorption means for the removal of  $H_2S$  is within the level of ordinary skill in the art.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (703) 308-0477. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen, can be reached on (703) 308-3322. The fax phone number for this Group is (703) 872-9310 (non-after finals) or 872-9311 (after final).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Kishor Mayekar Primary Examiner Group 1700

KM March 19, 2003